

TRANSLATION

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2003P18865WO	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/EP2004/052716	International filing date (<i>day/month/year</i>) 29.10.2004	Priority date (<i>day/month/year</i>) 12.12.2003	
International Patent Classification (IPC) or national classification and IPC B60G17/015			
Applicant SIEMENS AKTIENGESELLSCHAFT			

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of 3 sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>

<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/052716

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- international search (Rule 12.3 and 23.1(b))
 - publication of the international application (Rule 12.4)
 - international preliminary examination (Rule 55.2 and/or 55.3)

2. With regard to the **elements** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

- the international application as originally filed/furnished
 the description:

pages 1-13 as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

- the claims:

nos. _____ as originally filed/furnished

nos.* 1-10 as amended (together with any statement) under Article 19

nos.* _____ received by this Authority on _____

nos.* _____ received by this Authority on _____

- the drawings:

sheets 1/3-3/3 as originally filed/furnished

sheets* _____ received by this Authority on _____

sheets* _____ received by this Authority on _____

- a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. The amendments have resulted in the cancellation of:

- the description, pages _____
- the claims, nos. _____
- the drawings, sheets/figs _____
- the sequence listing (*specify*): _____
- any table(s) related to sequence listing (*specify*): _____

4. This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- the description, pages _____
- the claims, nos. _____
- the drawings, sheets/figs _____
- the sequence listing (*specify*): _____
- any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/EP2004/052716

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1–10	YES
	Claims	_____	NO
Inventive step (IS)	Claims	1–10	YES
	Claims	_____	NO
Industrial applicability (IA)	Claims	1–10	YES
	Claims	_____	NO

2. Citations and explanations (Rule 70.7)

1. This report makes reference to the following document:

D1: EP-A-1 002709 (DELPHI TECH INC) 24 May 2000
(2000-05-24)

2. D1 is considered to be the prior art closest to the subject matter of claim 1. D1 (the references in parentheses are to D1) discloses:

system (10) for determining a relative movement of a chassis and a body of a wheeled vehicle, said body being moveably connected to the chassis, said system having

- a sensor device situated in the wheeled vehicle, wherein the sensor device is designed to measure three wheeled vehicle linear accelerations, which extend perpendicular to each other, and two angular rates of, in each case, a rotational movement about a coordinate axis of the wheeled vehicle, wherein the two coordinate axes are perpendicular to each other (paragraph 13), and
- an evaluation device (22) which is combined with the sensor device and which is designed to determine a current position of the relative movement using the three

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PCT/EP2004/052716**Box No. V** **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

linear accelerations and the two angular rates,
- wherein the evaluation device (22) has a computer (22) which is designed to calculate a number of current positions of the movement using the two angular rates and the three linear accelerations (column 6, lines 14-19).

Thus the subject matter of claim 1 differs from the known system in that each of the positions of the movement is a measurement for a distance between the vehicle body and at least one wheel of the chassis.

The subject matter of claim 1 is therefore novel (PCT Article 33(2)).

3. The problem to be solved by the present invention can therefore be regarded as that of making it possible to reliably and cost-effectively determine the distance between the vehicle body and a wheel of the chassis.

3.1. The solution to this problem as proposed in claim 1 of the present application involves an inventive step for the following reasons (PCT Article 33(3)):

The features in independent claim 1 are neither known nor obvious from the available prior art.

D1 addresses a different problem, i.e. determining the roll angle and the pitch angle of a vehicle.

Moreover, it is known to measure, in the region of the wheels, a length of a dimension between the chassis and vehicle body using a height sensor for each wheel.

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However, height sensors are relatively expensive and are subjected to high stress during use in a motor vehicle.

The invention provides a solution which makes it possible to save on some of the cost-intensive height sensors.

Furthermore, the sensors for measuring linear accelerations and angular rates can also be used for other purposes (for example, as input variables for other electronic systems such as an anti-lock braking system or the electronic stability program).

4. Claim 1 discloses a device for carrying out the method according to claim 6.

Claim 6 contains similar technical features as claim 1 and therefore also meets the PCT requirements for novelty and inventive step.

5. Claims 2 to 5 and 7 to 10 are dependent on claims 1 and 6, respectively, and therefore also meet the PCT requirements for novelty and inventive step.